

WHAT IS CLAIMED IS:

1 1. A method for enabling access to resource objects in an application engine,
2 comprising:

3 receiving a request, from a calling entity, for resource objects of a specified type
4 in the application engine;

5 generating a request to the application engine for information on available
6 resource objects of the specified type;

7 in response to receiving the information from the application engine, generating a
8 collection object including one metadata element for each resource object of the specified
9 type in the application engine; and

10 returning the generated collection object to the calling entity.

1 2. The method of claim 1, wherein the calling entity comprises an application
2 program.

1 3. The method of claim 1, wherein the calling entity issues the request from a
2 client and wherein the request is received on a server including the application engine.

1 4. The method of claim 1, wherein the application engine is one of a plurality
2 of service engines enabling access to service resources, wherein the request for the
3 resource objects from the calling entity comprises a method that is a member of a service
4 class implementation of the application engine, wherein each service engine provides one
5 service class implementation of methods and objects from a same abstract service class.

1 5. The method of claim 1, wherein the application engine and other service
2 engines comprise workflow products from different vendors.

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1 6. The method of claim 5 wherein the workflow service class
2 implementations from different vendors each include methods and objects from a same
3 abstract workflow service class specifying methods and objects to include in all workflow
4 service class implementations.

1 7. The method of claim 1, wherein the application engine comprises a
2 workflow engine and wherein the specified type of the requested resource objects
3 comprises one of workflow objects, workflow templates and work lists defined in the
4 application engine.

1 8. The method of claim 1, wherein the collection object is generated using
2 methods from a collection object class, further comprising:
3 receiving a retrieve method in the collection object class from the calling entity
4 requesting the resource object represented by one selected metadata element in the
5 collection object;
6 generating an additional request to the application engine for the resource object
7 requested in the retrieve method;
8 receiving the requested resource object from the application engine; and
9 returning the requested resource object to the calling entity invoking the retrieve
10 method.

1 9. The method of claim 8, wherein the calling entity uses methods from the
2 collection object class to access the collection object.

1 10. The method of claim 9, wherein the generated additional request to the
2 application engine is in a service class implemented by the application engine including
3 methods and objects to access the application engine.

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1 11. The method of claim 8, wherein the application engine is one of a
2 plurality of service engines enabling access to service resources, wherein each service
3 engine provides one collection object class implementation of methods from a same
4 abstract collection object class used to instantiate and manipulate a collection object
5 including metadata on resource objects available at the application engine.

1 12. The method of claim 1, wherein the collection object is generated using
2 methods from a collection object class and wherein the request for the resource object
3 from the calling entity is in a service class implemented by the application engine that
4 includes methods and objects to access the application engine.

1 13. A system for enabling access to resource objects, comprising:
2 an application engine including resource objects;
3 means for receiving a request, from a calling entity, for resource objects of a
4 specified type in the application engine;
5 means for generating a request to the application engine for information on
6 available resource objects of the specified type;
7 means for generating a collection object including one metadata element for each
8 resource object of the specified type in the application engine in response to receiving the
9 information from the application engine; and
10 means for returning the generated collection object to the calling entity.

1 14. The system of claim 13, wherein the calling entity comprises an
2 application program.

1 15. The system of claim 13, wherein the calling entity comprises a client and
2 wherein the means for receiving the request comprises a server including the application
3 engine.

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1 16. The system of claim 13, wherein the application engine is one of a
2 plurality of service engines enabling access to service resources, wherein the means for
3 requesting the resource objects from the calling entity uses a method that is a member of a
4 service class implementation of the application engine, wherein each service engine
5 provides one service class implementation of methods and objects from a same abstract
6 service class.

1 17. The system of claim 16, wherein the application engine and other service
2 engines comprise workflow products from different vendors.

1 18. The system of claim 17, wherein the workflow service class
2 implementations from different vendors each include methods and objects from a same
3 abstract workflow service class specifying methods and objects to include in all workflow
4 service class implementations.

1 19. The system of claim 13, wherein the application engine comprises a
2 workflow engine and wherein the specified type of the requested resource objects
3 comprises one of workflow objects, workflow templates and work lists defined in the
4 application engine.

1 20. The system of claim 13, wherein the collection object is generated using
2 methods from a collection object class, further comprising:
3 means for receiving a retrieve method in the collection object class from the
4 calling entity requesting the resource object represented by one selected metadata element
5 in the collection object;
6 means for generating an additional request to the application engine for the
7 resource object requested in the retrieve method;
8 means for receiving the requested resource object from the application engine; and

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9 means for returning the requested resource object to the calling entity invoking the
10 retrieve method.

1 21. The system of claim 20, wherein the calling entity uses methods from the
2 collection object class to access the collection object.

1 22. The system of claim 21, wherein the means for generating the additional
2 request to the application engine comprises a method in a service class implemented by
3 the application engine including methods and objects to access the application engine.

1 23. The system of claim 20, further comprising:
2 a plurality of service engines enabling access to service resources, including the
3 application engine, wherein each service engine provides one collection object class
4 implementation of methods from a same abstract collection object class used to
5 instantiate and manipulate a collection object including metadata on resource objects
6 available at the application engine.

1 24. The system of claim 13, wherein the means for generating the collection
2 object uses methods from a collection object class and wherein the means for requesting
3 the resource object from the calling entity uses methods in a service class implemented by
4 the application engine that includes methods and objects to access the application engine.

1 25. An article of manufacture including code for enabling access to resource
2 objects in an application engine by:
3 receiving a request, from a calling entity, for resource objects of a specified type
4 in the application engine;
5 generating a request to the application engine for information on available
6 resource objects of the specified type;

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7 in response to receiving the information from the application engine, generating a
8 collection object including one metadata element for each resource object of the specified
9 type in the application engine; and
10 returning the generated collection object to the calling entity.

1 26. The article of manufacture of claim 25, wherein the calling entity
2 comprises an application program.

1 27. The article of manufacture of claim 25, wherein the calling entity issues
2 the request from a client and wherein the request is received on a server including the
3 application engine.

1 28. The article of manufacture of claim 25, wherein the application engine is
2 one of a plurality of service engines enabling access to service resources, wherein the
3 request for the resource objects from the calling entity comprises a method that is a
4 member of a service class implementation of the application engine, wherein each service
5 engine provides one service class implementation of methods and objects from a same
6 abstract service class.

1 29. The article of manufacture of claim 25, wherein the application engine and
2 other service engines comprise workflow products from different vendors.

1 30. The article of manufacture of claim 29, wherein the workflow service class
2 implementations from different vendors each include methods and objects from a same
3 abstract workflow service class specifying methods and objects to include in all workflow
4 service class implementations.

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1 31. The article of manufacture of claim 25, wherein the application engine
2 comprises a workflow engine and wherein the specified type of the requested resource
3 objects comprises one of workflow objects, workflow templates and work lists defined in
4 the application engine.

1 32. The article of manufacture of claim 25, wherein the collection object is
2 generated using methods from a collection object class, further comprising:
3 receiving a retrieve method in the collection object class from the calling entity
4 requesting the resource object represented by one selected metadata element in the
5 collection object;
6 generating an additional request to the application engine for the resource object
7 requested in the retrieve method;
8 receiving the requested resource object from the application engine; and
9 returning the requested resource object to the calling entity invoking the retrieve
10 method.

1 33. The article of manufacture of claim 32, wherein the calling entity uses
2 methods from the collection object class to access the collection object.

1 34. The article of manufacture of claim 33, wherein the generated additional
2 request to the application engine is in a service class implemented by the application
3 engine including methods and objects to access the application engine.

1 35. The article of manufacture of claim 32, wherein the application engine is
2 one of a plurality of service engines enabling access to service resources, wherein each
3 service engine provides one collection object class implementation of methods from a
4 same abstract collection object class used to instantiate and manipulate a collection object
5 including metadata on resource objects available at the application engine.

1 36. The article of manufacture of claim 25, wherein the collection object is
2 generated using methods from a collection object class and wherein the request for the
3 resource object from the calling entity is in a service class implemented by the application
4 engine that includes methods and objects to access the application engine.